

Developing world caused more climate change before Industrial Revolution

Mankind was causing climate change long before the combustion engine was even invented, according to a new study that suggests developing countries like China and India have contributed more to global warming than previously thought.



The study puts more blame on developing countries for climate change because most of the deforestation and population growth happened in countries like India and China Photo: Alamy

By Louise Gray, Environment Correspondent

11:15PM BST 03 Jul 2012

Researchers at the Washington-based Carnegie Institution for Science found the clearing of forests and other wild areas for agricultural purposes before the Industrial Revolution in 1840 added significant carbon dioxide to the atmosphere.

The paper concluded that just under ten per cent of the 0.8C global warming experienced over the last 150 years is due to pre-industrial land use change.

The study, published in *Environmental Research Letters*, is further proof that mankind is changing the climate. Not only because of carbon dioxide from cars and factories, but by continuing to clear land of trees that would have absorbed the greenhouse gas.

The study also puts more blame on developing countries for climate change because most of the deforestation and population growth happened in countries like India and China.

Julia Pongratz, one of the scientists leading the research, said emissions from the pre-industrial era still have an impact on our climate today because carbon dioxide emissions remain in the atmosphere for many centuries.

"The relatively small amounts of carbon dioxide emitted many centuries ago continue to affect atmospheric carbon dioxide concentrations and our climate today, though only to a relatively small extent," she said.

However Dr Pongratz emphasised that pre-industrial emissions have a much smaller effect than the carbon produced by engines.

"Looking into the past illustrates that the relatively large amount of carbon dioxide that we are emitting today will continue to have relatively large impacts on the atmosphere and climate for many centuries into the future," she added.

It is generally thought rich countries like the UK are most responsible for climate change because they produced more emissions from the time of the Industrial Revolution onwards.

This remains the case, but the study shows that in fact poor countries have had a bigger impact than previously thought because of population increase and deforestation.

The world's population increased about five-fold between 800 and 1850 AD and half that growth occurred in China and India.

The study found that accounting for pre-industrial emissions shifts attribution of global temperature from industrialized nations to developing nations by up to 2 to 3 per cent. For example, considering emissions from pre-industrial land-use change increases the amount of total global warming that can be attributed to emissions from South Asia (a region that includes India) from 5.1 per cent to 7 per cent -- an increase of 37 per cent in the amount previously attributed to this region.

The findings could have implications for ongoing United Nations talks on climate change, as countries argue over how much each nation state is 'responsible' and should therefore cut carbon.

Ken Caldeira, a co-author of the paper, said study is not intended to increase the blame on people living in the developing world today.

His personal view is that the responsibility for carbon emissions should be with the people that benefited from the deforestation, which was richer countries during the Colonial era, and that those with money should help the world adapt.

He also emphasised that the real problem continues to be the massive amount of carbon emitted since 1840.

“Pre-industrial emissions produced a small amount of climate change but the big emissions today will have much greater effects in the centuries to come,” he said.

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